

OM of: US-09-331-631-5\_COPY\_1\_32 to: N.Geneseq\_36.\* out\_format : pfs  
Date: May 13, 2000 11:15 PM

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## Command line parameters:

```
-MODEL=frame+gzn.model -DEV=xlp  
-O=/cgn2.1/USPto_spool/US09331631/runat_11052000.144018.21048/app-query.fasta.1  
-DB=N.Geneseq_36 -GPM=fastap -SUFFIX=ing -GAPOP=12.000  
-GAPEXT=4.000 -MINMATCH=0.100 -LOOPEXT=0.000  
-GAPOP=4.500 -OGAPEXT=0.050 -XGAPOP=10.000 -XGAPEXT=0.500  
-GAPOP=6.000 -FGAPEXT=7.000 -YGAPOP=10.000 -YGAPEXT=0.500  
-DELOP=6.000 -DELEXT=7.000 -START=1 -MATRIX=bloms62  
-TRANS=human40.cdi -LIST=45 -DOCALLIGN=200 -THR_SCORE=pct  
-ALIGN=15 -MODE=LOCAL -OUTFMT=pfs -NOR=ext -MINLEN=0  
-MAXLEN=1000000 -USER=US09331631 -NCPU=6 -ICPU=3 -NO_XLPPY -WAIT  
-THREADS=1
```

## Search information block:

```
Query: US-09-331-631-5_COPY_1_32  
Query length: 32  
Database: N.Geneseq_36.*  
Database sequences: 311585  
Database length: 125096042  
Search time (sec): 124.060000
```

```
score_list:  
Sequence Strd Orig ZScore EScore Len Documentation  
N.Geneseq_36:V42316 + 180.00 474.48 7.9e-19 2140 Macadamia integrifolia partial  
N.Geneseq_36:V42310 + 180.00 474.34 8.1e-19 2171 Macadamia integrifolia antitum  
N.Geneseq_36:V42311 + 180.00 474.34 8.1e-19 2171 Macadamia integrifolia antitum  
N.Geneseq_36:V10493 + 64.50 163.97 0.1563 656 Human TSP1 genomic DNA, complex  
N.Geneseq_36:V10494 + 64.50 157.26 0.1367 908 Human TSP1 concatamer genomic  
N.Geneseq_36:T63078 + 59.00 145.55 1.66 1336 Active clone NZ4 of IgG-Fc bind  
N.Geneseq_36:T63073 + 59.00 125.00 23.14 7824 7.8 kb fragment of pV11-SF.1  
N.Geneseq_36:T63074 + 59.00 117.95 57.16 16382 IgG-Fc binding protein coding  
N.Geneseq_36:X03198 + 55.00 122.00 34.03 3334 Arabidopsis enhanced disease  
N.Geneseq_36:X03800 + 52.00 118.02 56.67 2106 Arabidopsis enhanced disease  
N.Geneseq_36:X03804 + 52.00 108.46 193.25 5740 Arabidopsis mutant EDS1 gene d  
N.Geneseq_36:X03796 + 52.00 108.45 193.33 5742 Arabidopsis late enhanced dis  
N.Geneseq_36:X03801 + 52.00 108.45 193.33 5742 Arabidopsis mutant EDS1 gene d  
N.Geneseq_36:X03806 + 52.00 108.45 193.33 5742 Arabidopsis mutant EDS1 gene d  
N.Geneseq_36:X03807 + 52.00 108.45 193.33 5742 Arabidopsis mutant EDS1 gene d  
N.Geneseq_36:X03808 + 52.00 108.45 193.33 5742 Arabidopsis mutant EDS1 gene d  
N.Geneseq_36:X08698 + 51.00 121.04 38.48 1146 Creatine-kinase subunit B cDNA  
N.Geneseq_36:O51619 + 51.00 119.29 48.13 1376 Human creatine kinase subunit  
N.Geneseq_36:N81538 + 50.50 106.30 254.66 4641 Sequence of a gene fragment co  
N.Geneseq_36:T15931 + 49.50 99.75 590.23 6889 DHFR/Inton (WTRASD)-Tntr-19g  
N.Geneseq_36:X13026 + 49.50 116.47 69.17 1032 Human secreted protein gene 5  
N.Geneseq_36:X27434 + 49.00 116.45 69.34 1034 Human secreted protein gene 5  
N.Geneseq_36:X03799 + 49.00 108.91 182.33 2279 Arabidopsis enhanced disease  
N.Geneseq_36:V30458.4 + 49.00 71.93 2.1e+04 110000 Continuation (5 of 6) of V3  
N.Geneseq_36:V30459.4 + 49.00 71.93 2.1e+04 110000 Continuation (5 of 6) of V3  
N.Geneseq_36:T131487 + 48.00 116.65 67.57 756 Maize isomerase coding sequen  
N.Geneseq_36:V32619 + 48.00 106.83 238.02 2116 Mouse preprothylakynth-C (PPT-  
N.Geneseq_36:T36507 + 48.00 101.83 451.82 3573 3.5 kb DNA contig. ars region,  
N.Geneseq_36:V46476 + 47.50 113.91 96.07 871 Human Kp43 cDNA, DNA encoding r  
N.Geneseq_36:V72243 + 47.50 106.35 253.32 1924 Human SBP2 cDNA, New modified  
N.Geneseq_36:O75303 + 47.50 98.79 667.38 4247 Human astrovirus serotype 2 ge  
N.Geneseq_36:T141849 + 47.50 94.26 1.2e+03 6878 Genomic RNA of human astroviru  
N.Geneseq_36:V21209.13 + 47.00 101.45 474.50 2777 Bacillus cellulase BCE 113 gen  
N.Geneseq_36:V12323 + 46.50 131.48 10.08 103 Human biallelic polymorphic DNA  
N.Geneseq_36:X40197 + 46.50 103.29 375.06 1980 Sequence of C3Y5 gene, New iso  
N.Geneseq_36:V52204 + 46.50 76.52 1.2e+04 32768 Streptococcus pneumoniae genc  
N.Geneseq_36:O66845 + 46.00 117.17 63.18 399 Sequence encoding the light cha  
N.Geneseq_36:V54350 + 46.00 115.06 82.86 498 Human mitochondrial hinge prote
```

```
N.Geneseq_36:V99255 + 46.00 108.31 196.80 1010 DNA encoding an active acyl  
N.Geneseq_36:T60712 + 46.00 104.02 341.29 1584 Saccharomyces cerevisiae te  
N.Geneseq_36:V69098 + 46.00 101.64 463.43 2034 Mouse growth hormone recept  
N.Geneseq_36:Q27387 + 46.00 100.33 548.09 2333 Clone p12 encoding part of  
seq_name: N.Geneseq_36:V42316
```

## seq\_documentation\_block:

```
ID V42316 standard; cDNA: 2140 BP.  
AC V42316;  
DE 27-OCT-1998 (first entry)  
DE Macadamia integrifolia partialantimicrobial protein gene.  
KW antimicrobial protein; infestation; control; ss.  
OS Macadamia integrifolia.  
FH Key location/Qualifiers  
FT CDS 1..1878  
FT /tag= a  
FT /product= partial antimicrobial protein
```

```
FT mat_peptide 1..1875  
FT /*tag= b  
FT PN WO9827805-A1.  
PD 02-JUL-1998.  
PE 22-DEC-1997; AU0874.  
PR 20-DEC-1996; AU-004275.  
PA (RER-) COOP RES CENT TROPHICAL PLANT PATHOLOGY.  
PI Bower NT, Goulter KC, Green JL, Manners JM, Marcus JP;  
DR WPI: 98-377279/32.  
DR P-PDB: W62830.  
PT Novel anti-microbial protein from e.g. Macadamia integrifolia -  
PT useful for controlling microbial infestations of plants or mammals  
PS Claim 5; Page 46-47; 96pp; English.  
CC The sequence is that encoding an antimicrobial protein which can  
CC be used to control microbial infestations in plants and mammals  
CC animals.  
SQ Sequence 2140 BP; 695 A; 486 C; 557 G; 402 T;
```

## alignment\_scores:

```
Quality: 180.00 Length: 32  
Ratio: 5.625 Gaps: 0  
Percent Similarity: 100.000 Percent Identity: 100.000
```

## alignment\_block:

```
US-09-331-631-5_COPY_1_32 x V42316
```

```
Align seg 1/1 to: V42316 from: 1 to: 2140
```

```
1 GlnCysMetGlnLeuGlnIuTrSerGlyGlnMetArgGysValSerG1 17  
|||||  
1 CAATGCTATGAGATTGTAAGATGATGATGATGATGATGATGATGATGAT 50  
17 ncyAspIlyArpGheIuIuAspIleAspTrpSerIyTyrAsp 32  
|||||  
51 GTGGGATTAAGAGATTGTAAGATGATGATGATGATGATGATGATGAT 96
```

```
seq_name: N.Geneseq_36:V42310
```

## seq\_documentation\_block:

```
ID V42310 standard; cDNA: 2171 BP.  
AC V42310;  
DE 27-OCT-1998 (first entry)  
DE Macadamia integrifolia antimicrobial protein gene.  
KW antimicrobial protein; infestation; control; ss.  
OS Macadamia integrifolia.  
FH Key location/Qualifiers  
FT CDS 1..2001  
FT /tag= a  
FT /product= antimicrobial protein
```

```
FT sig_peptide 1..85  
FT mat_peptide /tag= b  
FT 86..1999  
FT /*tag= c  
FT PN WO9827805-A1.
```



```

AC V10494;
DE 18-AUG-1998 (first entry)
DE Human TSP1 concatamer genomic DNA.
KW TSP1: thrombospondin; anti-angiogenic; cationic vehicle; gene therapy;
KW liposome; DNA complex; tumour suppressor protein; treatment; neoplastic;
KW metabolic disease; tumour; concatamer; ss.
OS Homo sapiens.
OS Synthetic.
FH Key
FT CDS
FT 1..1326
FT /tag= a
FT /transl_except= (pos: 478..480, aa: Thr)
FT /transl_except= (pos: 661..663, aa: His)
FT /transl_except= (pos: 1147..1149, aa: Thr)
FT misc_feature
FT 658..669
FT /tag= b
FT /note= "Intervening sequence as given in the
FT specification"
FT
FT EP-819758-A2.
FT 21-JUN-1998.
FT 16-JUL-1997; 112154.
FT 16-JUL-1996; US-680845.
FT (MIXS/) MIXSON A J.
FT MIXSON AJ;
FT WPI; 98-078839/08.
FT P-PSDB; W40288.
FT Complexes of DNA encoding anti-angiogenic peptide - with cationic
FT liposome(s) or cationic polymer, useful for, e.g. gene therapy of
FT tumours.
PT Claim 24, Page 7; 47pp; English.
CC This genomic DNA sequence encodes a concatamer of the thrombospondin gene
CC TSP1 which is used in a method to produce a cationic vehicle consisting
CC of a cationic liposome:DNA complex where the DNA encodes an
CC anti-angiogenic peptide or tumour suppressor protein. Such complexes are
CC used for treatment of neoplastic and metabolic diseases especially for
CC gene therapy of tumours.
SQ Sequence 1326 BP; 313 A; 352 C; 378 G; 283 T;

alignment_scores:
Quality: 64.50 Length: 26
Ratio: 3.395 Gaps: 1
Percent Similarity: 73.077 Percent Identity: 46.154

alignment_block:
US-09-331-631-5_COPY_1_32 x V10494 ..

Align seg 1/1 to: V10494 from: 1 to: 1326

7 ThrsGlyGlnMetArgArgCys...ValSerGlnCysAspLysArgph 22
:::||||| ||| ||| ||| :::::::::::|||||
346 TCCTGCGTCACAGACGACCTGCACATTCAGAGCTGTGACAAAGATT 395

22 eGluGlnAspLysArgPTrSerLysTyr 31
:::||||| ||| ||| ||| :::
396 TAAACAGATGCTGCTGAGCCACTCG 423

seq_name: N_Geneseq_36:T63077

seq_documentation_block:
ID T63077 standard; cDNA; 908 BP.
AC T63077;
DE 13-MAY-1997 (first entry)
DE Active clone N24 of IgG-Fc binding protein.
KW Fragment 13; pNV11-ST; IgG-Fc binding protein; immunoglobulin; K17;
KW human; colonic epithelium; monoclonal antibody; K9; probe; primer; ds.
OS Homo sapiens.
OS WO9527057-A1.
PN 12-OCT-1995.
PF 03-APR-1995; J00638.
PR 01-APR-1994; JP-128487.
PR 24-AUG-1994; JP-222547.
PR 30-MAR-1995; JP-109927.

```

```

PA (CHUS ) CHUGAI SEIYAKU KK.
PA Harada N, Morikawa M;
DR WPI; 95-358632/46.
PT DNA derived from colonic epithelium encoding IgG-Fc binding protein
PT - used in the mapping and analysis of IgG-Fc binding protein mRNA
PS Example 8; Page 60; 132pp; Japanese.
CC The sequences given in T63077-81 represent active clones of the IgG-Fc
CC binding protein of human colonic epithelium. mRNA isolated from human
CC colonic epithelial tissue was used to prepare a cDNA library. This
CC library was screened using monoclonal antibodies K9 and K17 which bind
CC to the large and small components of the binding protein. These active
CC clones were used to derive probes for screening a second DNA library
SQ Sequence 908 BP; 194 A; 274 C; 254 G; 186 T;

alignment_scores:
Quality: 59.00 Length: 28
Ratio: 2.950 Gaps: 0
Percent Similarity: 71.429 Percent Identity: 35.714

alignment_block:
US-09-331-631-5_COPY_1_32 x T63077 ..

Align seg 1/1 to: T63077 from: 1 to: 908

1 GlnCysMetGlnLeuGluThrSerGlyGlnMetArgArgCysValSerG1 17
:::|||||: ::::: |||:|||||:
470 GAATGTCAAGAGATTTCGCCGTGGCCGGTGCAGGAGTCTCGGTCA 519

17 nCysAspLysArgPheGluGlnAspLysArgPTr 28
||||| :::::|||||:
520 GTGTCACGCTCAAGGGGTCATGATTCATCATG 553

seq_name: N_Geneseq_36:T63078

seq_documentation_block:
ID T63078 standard; cDNA; 1336 BP.
AC T63078;
DE 13-MAY-1997 (first entry)
DE Active clone C72 of IgG-Fc binding protein.
KW Fragment 13; pNV11-ST; IgG-Fc binding protein; immunoglobulin; K17;
KW human; colonic epithelium; monoclonal antibody; K9; probe; primer; ds.
OS Homo sapiens.
OS WO9527057-A1.
PN 12-OCT-1995.
PF 03-APR-1995; J00638.
PR 01-APR-1994; JP-129487.
PR 24-AUG-1994; JP-222547.
PR 30-MAR-1995; JP-109927.
PA (CHUS ) CHUGAI SEIYAKU KK.
PA Harada N, Morikawa M;
DR WPI; 95-358632/46.
PT DNA derived from colonic epithelium encoding IgG-Fc binding protein
PT - used in the mapping and analysis of IgG-Fc binding protein mRNA
PS Example 8; Page 61; 132pp; Japanese.
CC The sequences given in T63077-81 represent active clones of the IgG-Fc
CC binding protein of human colonic epithelium. mRNA isolated from human
CC colonic epithelial tissue was used to prepare a cDNA library. This
CC library was screened using monoclonal antibodies K9 and K17 which bind
CC to the large and small components of the binding protein. These active
CC clones were used to derive probes for screening a second DNA library
SQ Sequence 1336 BP; 270 A; 404 C; 397 G; 265 T;

alignment_scores:
Quality: 59.00 Length: 28
Ratio: 2.950 Gaps: 0
Percent Similarity: 71.429 Percent Identity: 35.714

alignment_block:
US-09-331-631-5_COPY_1_32 x T63078 ..

```

Align seg 1/1 to: T63078 from: 1 to: 1336

```

1 GlnCysMetGlnLeuGluThrSerGlyGlnMetArgArgCysValSerG1 17
   ::::::::::: ::::::::::: ::::::::::: ::::::::::: :::::::::::
325 GAATGTCACAGAGATTGCGGTGGCGGTCGCCGAGGTGCTCGGTCA 374
      |||||
17 nCysAspLysArgPheGluGluAspLeuAspTrp 28
      |||||
375 GTGTCAACGCTGAAGGGGCTGACATCAATG 408

```

seq\_name: N\_Geneseq\_36:T63073

seq\_documentation\_block:

```

ID T63073 standard; cDNA: 7824 BP.
AC T63073;
DT 13-MAY-1997 (first entry)
DE 7.8 kb fragment of pNV11-ST.
KW Fragment 13; pNV11-ST; IgG-Fc binding protein; immunoglobulin; K17;
   human; colonic epithelium; monoclonal antibody; K9; probe; ds.
OS Homo sapiens.
FH Key Location/Qualifiers
FT cds 21..7802
   /tag= a
   /note= "CDS does not contain a stop codon"
FT PT
   WO9527057-A1.
PD 12-OCT-1995.
PF 03-APR-1995; J00638.
PR 01-APR-1994; JP-129487.
PR 24-AUG-1994; JP-222547.
PR 30-MAR-1995; JP-109927.
PA (CHUS) CHUGAI SEIYAKU KK.
PI Harada N, Morikawa M;
DR WPI: 95-358632/46.
P-PSDB: W14748.
PT DNA derived from colonic epithelium encoding IgG-Fc binding protein
PT - used in the mapping and analysis of IgG-Fc binding protein mRNA
PS Claim 1; Page 71-84; 132p; Japanese.
CC This sequence represents fragment 13 which is a NotI/KpnI fragment
   from pNV11-ST. This sequence encodes a portion of the IgG-Fc binding
   protein of human colonic epithelium. This sequence was used in the
   isolation of the full length sequence given in T63074. mRNA isolated
   from human colonic epithelial tissue was used to prepare a cDNA library.
   CC This was screened using monoclonal antibodies K9 and K17 which bind to
   the large and small components of the binding protein. Active clones,
   CC see also T63077-81, were used to derive probes for screening a second
   CC DNA library from human colonic epithelial tissue.
SQ Sequence 7824 BP; 1344 A; 2469 C; 2501 G; 1510 T;

```

alignment\_scores: Quality: 59.00 Length: 28  
Ratio: 2.950 Gaps: 0  
Percent Similarity: 71.429 Percent Identity: 35.714

alignment\_block:

US-09-331-631-5\_COPY\_1\_32 x T63073 ..

Align seg 1/1 to: T63073 from: 1 to: 7824

```

1 GlnCysMetGlnLeuGluThrSerGlyGlnMetArgArgCysValSerG1 17
   ::::::::::: ::::::::::: ::::::::::: ::::::::::: :::::::::::
482 GAATGTCACAGAGATTGCGGTGGCGGTCGCCGAGGTGCTCGGTCA 531
      |||||
17 nCysAspLysArgPheGluGluAspLeuAspTrp 28
      |||||
532 GTGTCAACGCTGAAGGGGCTGACATCAATG 565

```

seq\_name: N\_Geneseq\_36:T63074

seq\_documentation\_block:

```

ID T63074 standard; cDNA: 16382 BP.
AC T63074;

```

DT 13-MAY-1997 (first entry)

DE IgG-Fc binding protein coding sequence.

KW Fragment 13; pNV11-ST; IgG-Fc binding protein; immunoglobulin; K17;

human; colonic epithelium; monoclonal antibody; K9; probe; ds.

OS Homo sapiens.

FH Key Location/Qualifiers

FT cds 9..1626

PT WO9527057-A1.

PD 12-OCT-1995.

PF 03-APR-1995; J00638.

PR 01-APR-1994; JP-129487.

PR 24-AUG-1994; JP-222547.

PR 30-MAR-1995; JP-109927.

PA (CHUS) CHUGAI SEIYAKU KK.

PI Harada N, Morikawa M;

DR WPI: 95-358632/46.

P-PSDB: W14749.

PT DNA derived from colonic epithelium encoding IgG-Fc binding protein

PT - used in the mapping and analysis of IgG-Fc binding protein mRNA

PS Claim 3; Page 86-113; 132p; Japanese.

CC This sequence encodes the IgG-Fc binding protein of human colonic

epithelium. This sequence was isolated using the sequence given in

CC T63073. mRNA isolated from human colonic epithelial tissue was used

CC to prepare a cDNA library. This was screened using monoclonal antibodies

CC K9 and K17 which bind to the large and small components of the binding

CC protein. Active clones, see also T63077-81, were used to derive probes

CC for screening a second DNA library from human colonic epithelial tissue.

SQ Sequence 16382 BP; 2803 A; 5193 C; 5206 G; 3180 T;

alignment\_scores: Quality: 59.00 Length: 28

Ratio: 2.950 Gaps: 0

Percent Similarity: 71.429 Percent Identity: 35.714

alignment\_block:

US-09-331-631-5\_COPY\_1\_32 x T63074 ..

Align seg 1/1 to: T63074 from: 1 to: 16382

```

1 GlnCysMetGlnLeuGluThrSerGlyGlnMetArgArgCysValSerG1 17
   ::::::::::: ::::::::::: ::::::::::: ::::::::::: :::::::::::
470 GAATGTCACAGAGATTGCGGTGGCGGTCGCCGAGGTGCTCGGTCA 519
      |||||
17 nCysAspLysArgPheGluGluAspLeuAspTrp 28
      |||||
520 GTGTCAACGCTGAAGGGGCTGACATCAATG 553

```

seq\_name: N\_Geneseq\_36:X03798

seq\_documentation\_block:

```

ID X03798 standard; DNA: 3334 BP.
AC X03798;

```

DT 01-APR-1999 (first entry)

DE Arabidopsis enhanced disease susceptibility gene Eds1col.

KW Arabidopsis; Landsberg-erecta; La-er; Masslowskija; WS-0; EDS1;

KW enhanced disease susceptibility; Columbia; Col-0; Eds1ler; Eds1col;

KW Eds1ws; disease resistance; esterase; lipase; ss.

OS Arabidopsis sp.

FH Key Location/Qualifiers

FT CDS 1054..3193

FT /tag= a

FT /note= "contains introns"

FT /tag= b

FT /tag= 1

FT /tag= c

FT /tag= d

FT /number= 1

FT /number= 2

FT /number= 1

FT /number= 2

FT /number= 1

FT /number= 2



```

FT      /number= 1
FT      intron      1745..1820
FT      /tag= c
FT      /number= 1
FT      exon      1821..2279
FT      /tag= d
FT      /number= 2
FT      misc_difference 2252
FT      /tag= e
FT      /note= "site of a deletion from 2252 to 2253 in the
FT      wild-type (X03796)"
FT
FT      W09853073-A1.
FT      26-NOV-1998.
FT      15-MAY-1998; G01406.
FT      16-MAY-1997; GB-010044.
FT      (PLAN-) PLANT BIOSCIENCE LTD.
FT      Falk AB, Feys Bf, Parker JF.
FT      WPI: 99-059744/05.
FT      P-PSDB; W30626.
FT      Arabidopsis gene, EDS1, modulating pathogen resistance response -
FT      useful, e.g. to produce transgenic plants, especially crops, with
FT      reduced or enhanced pathogen resistance and to isolate homologous
FT      genes
FT
PS      Claim 7: Fig 3: 90pp: English.
CC      The present sequence encodes a mutant enhanced disease susceptibility
CC      protein (EDS1), designated La-er eds1-4, from Arabidopsis. EDS1 nucleic
CC      acid sequences can be used to produce transgenic plants (especially
CC      plants) containing transformed cells which incorporate sequences
CC      encoding EDS1 polypeptides/variant polypeptides. By allowing expression
CC      of these sequences, plant defence responses can be modulated (either
CC      enhanced or inhibited); in particular, pathogen resistance can be raised
CC      (especially if a pathogen-inducible promoter is used and/or pathogen
CC      resistance is mediated by an R gene (i.e. a plant gene) of the
CC      TIR-NBS-LRR type). EDS1 nucleic acid sequences can be used to produce
CC      probes/primers useful to identify the EDS1 sequences/similar genes, and
CC      especially to clone EDS1 homologues e.g. from other crop species, or to
CC      monitor segregation of a resistance gene. The polynucleotides or
CC      complementary sequences can also be used to downwardly modulate EDS1
CC      expression in plants, e.g. by using known antisense or co-suppression
CC      techniques or ribozymes. The polypeptides may be useful as esterases,
CC      particularly as lipases in lipid-based signalling pathways. They may
CC      also be used to produce antibodies, useful to identify/isolate the
CC      polypeptides.
CC      N.B. The present sequence is not given in the present specification
CC      but is derived from the sequence in X03796 as specified.
SQ      Sequence 5740 BP; 1821 A; 1048 C; 1215 G; 1656 T;

alignment_scores:
Quality: 52.00 Length: 25
Ratio: 3.250 Gaps: 1
Percent Similarity: 64.000 Percent Identity: 44.000

alignment_block:
US-09-331-631-5_COPY_1_32 x X03804 ..
Align seg 1/1 to: X03804 from: 1 to: 5740
6 Glutthserglyglumetargargyvalserglincysasplysargph 22
||||| ||| ::::::::::||| |||
3016 GAGGTGCTCGGTTATTCAGAAATGT.....CACTTCACATGAGT 3059
22 egluGlusAspIleAspTPSerLys 30
||||| ||| ||| ||| ||| |||
3060 CGAAGGGACATAGATTGATCAG 3084

seq_name: N_Geneseq_36:X03796

seq_documentation_block:
ID X03796 standard; DNA: 5742 BP.
AC X03796;
DT 01-APR-1999 (first entry)
DE Arabidopsis La-er enhanced disease susceptibility gene EDS1.

```

```

KW      Arabidopsis: Landsberg-erecta; La-er; Massilwskija; ws-0; EDS1;
KW      enhanced disease susceptibility; Columbia; Col-0; Edsiller; Eds1col;
KW      Eds1ws; disease resistance; esterase; lipase; ss.
OS      Arabidopsis sp.
FH      key      Location/Qualifiers
FT      CDS      1427..3590
FT      /tag= a
FT      /note= "contains introns"
FT      exon      1427..1744
FT      /tag= b
FT      intron      1745..1820
FT      /tag= c
FT      exon      1821..2252
FT      /tag= d
FT      intron      2253..2672
FT      /tag= e
FT      exon      2673..2753
FT      /tag= f
FT      intron      2754..2849
FT      /tag= g
FT      exon      2850..3590
FT      /tag= h
FT      /number= 4
FT
FT      W09853073-A1.
FT      26-NOV-1998.
FT      15-MAY-1998; G01406.
FT      16-MAY-1997; GB-010044.
FT      (PLAN-) PLANT BIOSCIENCE LTD.
FT      Falk AB, Feys Bf, Parker JF.
FT      WPI: 99-059744/05.
FT      P-PSDB; W30620.
FT      Arabidopsis gene, EDS1, modulating pathogen resistance response -
FT      useful, e.g. to produce transgenic plants, especially crops, with
FT      reduced or enhanced pathogen resistance and to isolate homologous
FT      genes
FT
PS      Claim 3: Fig 3: 90pp: English.
CC      The present sequence encodes an enhanced disease susceptibility gene
CC      (EDS1), designated Eds1ler, from Arabidopsis. EDS1 nucleic acid
CC      sequences can be used to produce transgenic plants (especially crop
CC      plants) containing transformed cells which incorporate sequences
CC      encoding EDS1 polypeptides/variant polypeptides. By allowing expression
CC      of these sequences, plant defence responses can be modulated (either
CC      enhanced or inhibited); in particular, pathogen resistance can be raised
CC      (especially if a pathogen-inducible promoter is used and/or pathogen
CC      resistance is mediated by an R gene (i.e. a plant gene) of the
CC      TIR-NBS-LRR type). EDS1 nucleic acid sequences can be used to produce
CC      probes/primers useful to identify the EDS1 sequences/similar genes, and
CC      especially to clone EDS1 homologues e.g. from other crop species, or to
CC      monitor segregation of a resistance gene. The polynucleotides or
CC      complementary sequences can also be used to downwardly modulate EDS1
CC      expression in plants, e.g. by using known antisense or co-suppression
CC      techniques or ribozymes. The polypeptides may be useful as esterases,
CC      particularly as lipases in lipid-based signalling pathways. They may
CC      also be used to produce antibodies, useful to identify/isolate the
CC      polypeptides.
SQ      Sequence 5742 BP; 1821 A; 1049 C; 1216 G; 1656 T;

alignment_scores:
Quality: 52.00 Length: 25
Ratio: 3.250 Gaps: 1
Percent Similarity: 64.000 Percent Identity: 44.000

alignment_block:
US-09-331-631-5_COPY_1_32 x X03796 ..
Align seg 1/1 to: X03796 from: 1 to: 5742

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6 GluHrSerGlyGlnMetArgCysValSerGlnCysAspLysArgph 22
||||| ||| :||||| ||| :|||
3018 GAGGCGCTCGGTTTATGAGAAATGT.....CAACTCCAGATGAGTT 3061
22 eGluHrAspLysArgPTrpSerLys 30
||||| ||||||||| |||
3062 CGAAGCGGACATGATGATGCATCAAG 3086

seq_name: N_Geneseq_36:X03801

seq_documentation_block:
ID X03801 standard; DNA: 5742 BP.
AC X03801;
DT 01-APR-1999 (first entry)
DE Arabidopsis mutant EDs1 gene designated Ws eds1-1.
KW Arabidopsis; Landsberg-erecta; La-er; Wassilewskij; Ws-0; EDs1;
enhanced disease susceptibility; Columbia; Col-0; Eds1er; Eds1col;
KW Eds1ws; disease resistance; esterase; lipase; ss.
OS Arabidopsis sp.
US Synthetic.
FH Key
FT CDS
FT 1427..3590
FT /tag= a
FT /note= "contains introns"
FT exon
FT 1427..1744
FT /tag= b
FT /number= 1
FT intron
FT 1745..1820
FT /tag= c
FT /number= 1
FT exon
FT 1821..2552
FT /tag= d
FT /number= 2
FT intron
FT 2553..2672
FT /tag= e
FT /number= 2
FT exon
FT 2673..2753
FT /tag= f
FT /number= 3
FT intron
FT 2754..2849
FT /tag= g
FT /number= 3
FT exon
FT 2850..3590
FT /tag= h
FT /number= 4
FT misc_difference 3114
FT /tag= i
FT /note= "wild-type G is changed to A, causing the amino
acid residue at position 466 to change from Glu
to Lys"

W09853073-A1.
PD 26-NOV-1998.
PF 15-MAY-1998; G01406.
PR 16-MAY-1997; GB-010044.
PA (PLAN-) PLANT BIOSCIENCE LTD.
PI Falk AB, Feys BJF, Parker JE;
DR WPI; 99-059744/05.
DR P-PSDB; W30624.
PT Arabidopsis gene, EDs1, modulating pathogen resistance response -
PT useful, e.g. to produce transgenic plants, especially crops, with
PT reduced or enhanced pathogen resistance and to isolate homologous
PT genes
PS Claim 7, Fig -; 90pp; English.
CC The present sequence encodes a mutant enhanced disease susceptibility
CC protein (EDs1), designated Ws eds1-1, from Arabidopsis. EDs1 nucleic
CC acid sequences can be used to produce transgenic plants (especially crop
CC plants) containing transformed cells which incorporate sequences
CC encoding EDs1 polypeptides/variant polypeptides. By allowing expression
CC of these sequences, plant defence responses can be modulated (either
CC enhanced or inhibited); in particular, pathogen resistance can be raised
CC (especially if a pathogen-inducible promoter is used and/or pathogen
CC resistance is mediated by an R gene (i.e. a plant gene) of the

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CC rIR-NBS-LRR type). EDs1 nucleic acid sequences can be used to produce
CC probes/primers useful to identify the EDs1 sequences/similar genes, and
CC especially to clone EDs1 homologues e.g. from other crop species, or to
CC monitor segregation of a resistance gene. The polynucleotides or
CC complementary sequences can also be used to downmodulate EDs1
CC expression in plants, e.g. by using known antisense or co-suppression
CC techniques or ribozymes. The polypeptides may be useful as esterases,
CC particularly as lipases in lipid-based signalling pathways. They may
CC also be used to produce antibodies, useful to identify/isolate the
CC polypeptides.
CC N.B. The present sequence is not given in the present specification
CC but is derived from the sequence in X03796 as specified.
SQ Sequence 5742 BP; 1822 A; 1049 C; 1215 G; 1656 T;

alignment_scores:
Quality: 52.00 Length: 25
Ratio: 3.250 Gaps: 1
Percent Similarity: 64.000 Percent Identity: 44.000

alignment_block:
US-09-331-631-5_COPY_1_32 x X03801 ..

Align seg 1/1 to: X03801 from: 1 to: 5742

6 GluHrSerGlyGlnMetArgCysValSerGlnCysAspLysArgph 22
||||| ||| :||||| ||| :|||
3018 GAGGCGCTCGGTTTATGAGAAATGT.....CAACTCCAGATGAGTT 3061
22 eGluHrAspLysArgPTrpSerLys 30
||||| ||||||||| |||
3062 CGAAGCGGACATGATGATGCATCAAG 3086

seq_name: N_Geneseq_36:X03806

seq_documentation_block:
ID X03806 standard; DNA: 5742 BP.
AC X03806;
DT 01-APR-1999 (first entry)
DE Arabidopsis mutant EDs1 gene designated Ws eds1-6.
KW Arabidopsis; Landsberg-erecta; La-er; Wassilewskij; Ws-0; EDs1;
enhanced disease susceptibility; Columbia; Col-0; Eds1er; Eds1col;
KW Eds1ws; disease resistance; esterase; lipase; ss.
OS Arabidopsis sp.
US Synthetic.
FH Key
FT CDS
FT 1427..2171
FT /tag= a
FT /note= "contains introns"
FT exon
FT 1427..1744
FT /tag= b
FT /number= 1
FT intron
FT 1745..1820
FT /tag= c
FT /number= 1
FT exon
FT 1821..2171
FT /tag= d
FT /number= 2
FT misc_difference 2169
FT /tag= e
FT /note= "wild-type C is changed to T, causing the amino
acid residue at position 223 to change from Gln
to a stop codon"

W09853073-A1.
PD 26-NOV-1998.
PF 15-MAY-1998; G01406.
PR 16-MAY-1997; GB-010044.
PA (PLAN-) PLANT BIOSCIENCE LTD.
PI Falk AB, Feys BJF, Parker JE;
DR WPI; 99-059744/05.
DR P-PSDB; W30627.
PT Arabidopsis gene, EDs1, modulating pathogen resistance response -
PT useful, e.g. to produce transgenic plants, especially crops, with

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